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Georgia Power and Gas Infrastructure Project (PGIP)

QUARTERLY REPORT
Q2 FY 2012: January, February, and March 2012

April 27, 2012
This publication was produced for review by the United States Agency for International Development. It was prepared by Tetra Tech ES, Inc.

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This report was prepared for the United States Agency for International Development under Contract No. AID-EDH-00-08-00027–AID-114-TO-10-00003, USAID/Caucasus, Georgia Power and Gas Infrastructure Project, Infrastructure Oversight and Capacity Building

[redacted]

Implemented by:

Tetra Tech RAI, Inc.
[redacted]

[redacted]

In association with:
[redacted]

Acknowledgements

The PGIP team would like to acknowledge and thank our counterparts at the Georgia State Electrosystem (GSE): [redacted]

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Our thanks go to the team members at [redacted].

[redacted].

Our appreciation goes to our project staff: [redacted] for their contributions.

Last and most important, we wish to acknowledge the PGIP team at USAID for their help and guidance this past quarter: [redacted].

Cover photo: Bidders for the Georgia Improved Power Transmission Project (GIPTP) viewing the two 220 kV circuit breaker bays at GSE's Tskaltubo Substation, which will be rehabilitated for the termination of the Senaki 1 and 2 220 kV transmission line of GIPTP. The site visit was on February 23, 2012. Cover photo courtesy of [redacted].

Executive Summary

This quarterly report was prepared under USAID's Task Order AID-EDH-00-08-00027 – AID-114-TO-10-00003: Georgia Power and Gas Infrastructure Project. The reporting period is for the second quarter of Federal fiscal year (FY) 2012: January 1, 2012 through March 31, 2012. Table 1 shows the contract's active work orders during Quarter 2 of FY 2012.

Table 1. Active First Quarter FY 2012 Work Orders

Work Order Type	Sector									
Administrative Work Orders	Power Infrastructure	Gas Infrastructure	Tender Documents	Construction Oversight	Capacity Building	Public Relations and Branding	Quality Assurance and Quality Control	Environmental Assessment	Design Activities	Procurement Plan

The key accomplishments of the quarter were:

1. The Georgia Oil and Gas Company (GOGC) began receiving pipe for the Abasha-Senaki gas pipeline; the pipe is being held the GOGC pipe yard in Samtredia.

2. A letter of no objection was submitted on GOGC's process of reviewing bids for the material to be provided for the Kutaisi-Abasha gas pipeline.

3. An independent government cost estimate was submitted to USAID for the construction work for the Abasha-Senaki gas pipeline project.

4. The PGIP team took part in an advisory mission on pipeline integrity management issues, held between the US Energy Association, Gulf Interstate Engineering, and GOGC from March 3-10, 2012.

5. USAID announced the tender for the Georgia Improved Power Transfer Project (GIPTP) in January 2012. A pre-proposal conference and site visit were held on February 22 and 23, 2012, in Tbilisi and west Georgia, respectively.

6. The tender for the Dissolved Gas Analyzer Project as distributed in early March 2012.

This April 27, 2012 version the Quarterly Report replaces the earlier version of April 24, 2012. A paragraph dealing with a horizontal directional drilling (HDD) crossing of the Tekhura River has been deleted from this version; the HDD investigation of a Tekhura River crossing occurred in the previous quarter.

Acronyms

BEO	Bureau Environmental Officer
DGA	Dissolved Gas Analyzer
EA	Environmental Assessment
exp	exp (formerly Trow Engineering Company)
FIZ	Free industrial zone
FY	Fiscal year (October through September)
GIPTP	Georgia Improved Power Transmission Project
GoG	Government of Georgia
GOGC	Georgia Oil and Gas Company
GGTC	Georgia Gas Transmission Company
GSE	Georgia State Electrosystem
HDD	Horizontal Directional Drilling
PGIP	Power and Gas Infrastructure Project
POWER	Power Engineers, Inc.
RFP	Request for proposals
USAID	United States Agency for International Development
USG	United States Government

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1 Program Staffing

1.1 Expat Staffing

Deployment. Table 2 shows the deployment of PGIP's international staff during the quarter.

Table 2. International Staffing and Deployment

Employee Name	Position	Georgia Arrival	Georgia Departure
[redacted]			

Staffing challenges. March 23, 2012 was the last day on the project for [redacted], PGIP Senior Engineer, who was responsible for the implementation of Component 2 (Gas Transit Infrastructure Construction, Replacement and Rehabilitation). [redacted] submitted his resignation to [redacted]. Until [redacted] can find a permanent replacement for the position, [redacted] is ensuring the provision of his firm's support for PGIP.

1.2 Local National Staffing

Disposition. Table 3 shows the local national staff currently assigned to the PGIP Project.

Table 3. Local National Staffing

Employee Name	Position	Start Date
[redacted]		

Staffing challenges. [redacted].

On March 15, 2012, [redacted], Electrical Design Engineer, was promoted to Project Lead for Component 2. [redacted] was appointed several days before [redacted] left so that there would be a smooth transition in the operation of Component 2.

2 Contract/Task Order Activities

2.1 Gas Infrastructure Development and Rehabilitation

2.1.1 Studies and Reviews/Sector Developments

In Quarter 2, the PGIP team focused on providing support and oversight for the quality and compliance verification of this pipeline. The team undertook the following works for the three indicated pipeline projects.

Senaki-Poti Gas Pipeline

- Checks of the power supply system of the pipeline's cathodic protection sub-stations (which are located near kilometer posts 3, 10 and 20). The team concluded that the connection work has been completed at two sites, but not the third. A note was sent to the Georgia Oil and Gas Company (GOGC) to this effect. The remaining work is scheduled for completetion in Quarter 3. The GOGC has set a target to have all three cathodic protection rectifier systems ready by March 9; however, this target was not met and the completion was rescheduled for March 23. The PGIP team will perform its next progress check in the first half of Quarter 3.

- On February 3, 2012 GOGC obtained the operating license for the Senaki-Poti gas pipeline from the Ministry of Economics and Sustainable Development.

- The PGIP team assessed the operations and maintenance of the recently constructed Senaki-Poti gas pipeline. The team identified three issues:

  - One of the three cathodic protection rectifier stations is still not in operation
  - No provision has been made for the installation of launchers and receivers for pipeline inspection gauges
  - There is a concern about water (both liquid and vapor) in the pipeline.

  The findings were communicated via a written report with photographs.

- The PGIP team provided recommendations to GOGC about options for measuring the amount of moisture in the Senaki-Poti gas pipeline.

- PGIP received a report on the water vapor measurement test that GGT performed on March 19-20, 2012. Exp experts in the United States are examining the implications of the results and will complete their report in Quarter 3.

Abasha-Senaki Gas Pipeline

- On January 27, the GOGC reported that a shipload of pipe was being held outside the Port of Poti, awaiting entry into the port before being offloaded. It was reported that about 8.5 km of pipe were received at the GOGC's Samtredia pipe yard. The remaining 20.5 km of pipe were to be delivered by February 20, 2012. Due to the cold weather in Europe, there was a delay in the shipments. The GOGC informed PGIP that the valves were coming from Turkey; the hot bends, tees, and end caps were coming from China; and the pressure regulator and insulation joint were coming from Italy.

- On February 28, the PGIP team participated in a meeting in western Georgia that was held for bidders on the Abasha-Senaki gas pipeline project.

- GOGC posted the tender for construction work on the Abasha-Senaki gas pipeline project on the GOGC website. The bid opening for this work was held at the GOGC office on January 30, 2012. The bid evaluation and contract award by GOGC are expected in the next quarter.

- The PGIP team reviewed the scanned images of the bids for the construction of the Abasha-Senaki gas pipeline, which were received from USAID. As a result of the review, all major concerns and questions have been answered.

- The team confirmed with the GOGC that all land acquisition activities for the Abasha-Senaki section have already been completed. Service agreements are in place with all private owners and compensation has also been paid. In total, 461 private and 69 state-owned land plots will be affected. In addition, GOGC has obtained a construction permit.

- An independent government cost estimate (IGCE) was submitted to USAID for the construction work for the Abasha-Senaki gas pipeline project.

- Tetra Tech revised IGCEs for the Abasha-Senaki construction work since its original IGCE did not include the cost of the contractor-provided materials.

- The team's engineers reviewed the project revisions for the main Abasha-Senaki gas pipeline section. The engineering research, calculations, working drawings, environmental protection technologies, construction organization, and work schedule were discussed. The project materials do not differ from those received in Quarter 4 of 2011 and have been positively evaluated. (The letter of no objection for the general overview and assessment of the project's construction was issued in Quarter 4 of 2011.)

- From February 20 through 24, the project team reviewed the gas pipeline construction organization documents for the Abasha-Senaki Project.

- A revised project review was conducted for the Abasha-Senaki section of the main gas pipeline. The engineering research, calculations, working drawings, environmental protection, technology, construction organization, and work schedule received a positive assessment.

Kutaisi-Abasha Pipeline

- On February 1, 2012, Tetra Tech submitted a letter of no objection on the GOGC's process of reviewing bids for the materials for the Kutaisi-Abasha gas pipeline.

- Pipes for the Kutaisi-Abasha project were scheduled to arrive at the Port of Poti on March 23 and 26, via two ships. Based on this information, the PGIP team visited the Samtredia Pipe Yard in mid-April 2012 and confirmed that the pipes were there. However, it was unable to check the valves and fittings, which are not expected to be delivered until next quarter.

- A price estimate on horizontal directional drilling (HDD) for the Rioni River crossing was received from the A. Hak Company of Houston, Texas. PGIP forwarded the estimate to the GOGC as part of its ongoing support of GOGC's interest in HDD.

- Tetra Tech held reviews and discussions with GOGC on HDD for the planned Rioni River crossing. The following details were reviewed:

  - The depth of the drill path
  - The scour depth of the river at the crossing point
  - Coatings for the pull string (the 'pull string' is the section of pipe that is pulled under the river in the HDD process)
  - Wall thickness of the pull string
  - HDD firms that may bid on the HDD for the Rioni River crossing.

- It was decided that an additional drilling profile with supporting data will be sent at the beginning of Quarter 3; the profile and supporting data are expected to indicate that the above points have already been resolved.

- Tetra Tech submitted to GOGC a draft technical specification for horizontal directional drilling.

Other Activities

During this quarter, the PGIP team implemented and facilitated the following activities:

- Comments on the draft report, *Future Approaches*, were received from the GOGC in late December 2011 and are being reviewed by the PGIP team. The process is planned to be completed in the next quarter.

- In January 2012, the PGIP team began drafting written procedures for the support of the two gas pipeline projects. These procedures are built upon 1) the Construction Quality Management Program to be held in Tbilisi by the US Corps of Engineers, as arranged by USAID, and 2) the PGIP Work Plan. The PGIP procedure for reviewing material deliveries for gas pipeline projects was prepared, reviewed and signed. A list of the written procedures Tetra Tech is to develop for the next two gas pipeline projects (Abasha-Senaki and Kutaisi-Abasha) was distributed internally. This list is based on both the common industry stages of pipeline construction and the PGIP Work Plan.

- The project's gas engineers took part in Steering Committee Meetings on March 2 and 23, which were held at GOGC. The discussions were related to the production, delivery and

storage of different kinds of construction materials, which are shown in the draft project plan for the Abasha-Senaki and Kutaisi-Abasha sections of the main gas pipeline. An agenda and meeting notes were published before and after each meeting.

2.1.2 Field Operations

- The team visited cathodic protection (CP) sites CP1, CP2, and CP3. Sites CP2 and CP3 (the CPs nearest Poti) appear to be operational. At CP1, GGTC and a local construction crew were installing poles for the 220 Volt AC power line to CP1. It was concluded that the Weekly Status Report No. 11 was in error when it reported that all three CPs were operational. We confirmed that CP1 became operational during the week of April 9, 2012.

2.1.3 Meetings

During this quarter the PGIP team attended and recorded the activities of the following formal meetings:

- On March 12 a meeting was held with GOGC representatives about enabling pigging capability in the Kutaisi-Abasha-Senaki-Poti gas pipeline. GOGC explained its decision to install a receiver at Poti as part of the Abasha-Senaki project, and the launcher as a part of the Kutaisi-Abasha project.

- A Steering Committee Meeting was held on March 23, 2012 at GOGC. Its participants discussed following issues:

  - Roles of and coordination among various members of the GOGC and GGTC
  - A replacement for Tommy Holden
  - A contact person at GGTC for operations and maintenance
  - The HDD River Rioni crossing.

- The PGIP team took part in the advisory mission on pipeline integrity management issues, held between the US Energy Association, Gulf Interstate Engineering, and GOGC from March 3-10, 2012.

2.1.4 Letter of No Objection

On February 1, 2012 Tetra Tech issued a letter of no objection on the GOGC's process of reviewing bids for the material for the Kutaisi-Abasha gas pipeline.

2.2 Power Infrastructure (Electricity Transmission Upgrade, Reconstruction, and Operations)

During the January-March 2012 quarter, significant progress was made on the electrical portion of the Georgia Power and Gas Infrastructure Project:

- The tender was announced by USAID for rehabilitation work on the Senaki-1-2 power transmission line, and the Tskaltubo-200 and Menji-200 substations.
- A conference was held for the bidders at the Tbilisi Radisson BLU Hotel on February 22, 2012.
- The bidders visited the Senaki-1-2 power transmission line, and the Tskaltubo-200 and Menji-200 substations on February 23, 2012.
- A tender on the substations' dissolved gas analyzers was released and distributed on March 7, 2012. This project is for purchase and installation work, as well as for analyzing the natural gas content in GSE large power transformers, and transferring this information to the control unit. The results of the tender are anticipated in the next quarter.

To achieve the abovementioned results, the PGIP team has implemented or participated in the implementation of the following activities:

- The pre-solicitation notice for the Senaki 1 and 2 Transmission Line Project was posted by USAID on the Federal Business Opportunities (FedBizOpps) website.
- USAID provided comments on the draft tender specifications for the Dissolved Gas Analyzer Project. The comments were incorporated in the final draft, which was sent to GSE for review and comments. After receiving GSE's input and holding several follow-up discussions, the tender document was revised and finalized.
- The translation of the Environmental Assessment (EA) for the Government of Georgia was completed. The English language translation and the Georgian language original were combined into one multi-lingual file and delivered to USAID.
- The EA was approved on January 20, 2012 with issuance of the Project Ecological Expertise (PEE) by the Government of Georgia.
- The detailed worksheets used to develop the independent government cost estimate (IGCE) were provided to USAID. The worksheets disaggregate the costs into customs, duties and VAT; geographic code adjustment factor; and contingency. The results were presented in the Bill of Quantities format of the RFP.
- The PGIP team prepared responses to the questions received from bidders. The responses were reviewed by GSE. The questions and harmonized responses were then forwarded to USAID for its review, consideration, editing, and use. USAID posted the questions and responses on the FedBizOpps website.

- The Construction Permit issued by the Ministry on March 2, 2012 was translated into English, and a draft copy of the translation was sent to USAID. Article 4 of the Construction Permit implied that the contractor cannot proceed to a subsequent stage of construction (such as tower erection) until a report is submitted to the Ministry on the prior stage (such as the installation of the foundations). Such a procedure would clearly prolong the construction schedule if applied to the 211 tower sites and the four bays at the substations. GSE has proposed that the Ministry model the GIPTP project after the Black Sea Transmission Project, where a review of the project by the donor's oversight contractor was deemed adequate, and only one final report is issued at the end of the project. The Ministry considered the recommendation and reissued the permit with a new oversight approach.

- The index and template for the internal PGIP procedures for the GITP project were prepared. Work began on creating the individual procedures, which is expected to be completed by Quarter 2.

Field Operations

- On February 17 the PGIP team organized a field trip to the Black Sea Transmission Project construction work sites (Samtskhe - Javakheti region). The purpose of trip was to obtain information about problems and the specifics of similar construction operations.

- On February 22-23 site visits were organized as part of pre-proposal operations. The PGIP team supported the process with explanations and clarifications on questions the bidders asked, and documented the subsequent discussions.

Meetings

- A Steering Committee Meeting was held on Wednesday, January 18, 2012 at the GSE Office. The following issues were discussed:

  - Dissolved gas analyzers (DGAs)
  - Smart grid
  - EA for GoG
  - EA for USG
  - Construction permit
  - Land issues
  - AgroGeorgia (Ferrero)
  - Tendering
  - Specifications
  - Pre-proposal conference and site visits for bidders.

- A Steering Committee Meeting was held on January 31, 2012 at the GSE office. Discussions included:

  - DGAs (part of the smart grid component)
  - Extended emergency control system (part of the smart grid component)
  - EA for GoG
  - EA for USG

- Construction permit
- Land issues
- AgroGeorgia (Ferrero)
- Tendering
- Pre-proposal conference and site visits for bidders
- Trip to Samtskhe-Javakheti
- GSE-provided telecom equipment.

- A Steering Committee Meeting was held on February 21 at the GSE Office. The agenda included:

  - Pre-proposal conference for bidders
  - Pre-proposal site visit for bidders
  - Tendering
  - Answers to bidders' questions
  - Construction permit
  - Land issues
  - GSE-provided telecom equipment
  - Office space in Kutaisi
  - Trip to Samtskhe-Javakheti
  - DGAs (part of the smart grid component)
  - Extended emergency control system (part of the smart grid component).

- A Pre-Proposal Conference and Site Visit for potential bidders were held on February 22 and 23. The Conference was held at the Radisson Blu Hotel in Tbilisi on February 22. The sites visits were in west Georgia on February 23, 2012. The sites included the Tskaltubo and Menji Substations, and several tower locations. Tetra Tech provided the notes of the meeting and the site visit, and transcribed the questions asked by the bidders.

- A Steering Committee meeting was held on March 23, 2012 at GSE; discussions included:

  - Tendering
  - Answers to bidders' questions
  - Construction permit
  - Land issues
  - GSE-provided telecom equipment
  - DGAs (part of the smart grid component)
  - Enhanced Emergency Control System (part of the smart grid component).

2.3 Support for Associated Projects

During the quarter, PGIP team members participated in the meetings of associated projects:

- Georgia Human and Institutional Capacity Development Plus Project (HICD Plus), February 3, 2012
- USAID Partner's Meeting, February 29, 2012 at the US Embassy
- Regional Energy Security and Market Development (RESMD) Strategic Planning Project, March 6, 2012 at the Marriott Hotel.
- Energy Security and Regional Integration (ESRI), USAID Armenia.

3 Capacity Building

The PGIP project team has and will continue to provide on-the-job and informal mentoring to both GSE and GOGC personnel.

In the last quarter of FY 2011, Tetra Tech investigated the capacity building needs of GSE and GOGC. The PGIP task order includes a task to conduct this study, but not to do the capacity development and training itself. The investigation and discussions with GSE and GOGC were completed and the report submitted to USAID. The report was subsequently given to the team at USAID's HICD Plus Project, which has a task order to conduct the needed capacity building.

4 Public Relations and Branding

PGIP prepared a success story on the CAPE software purchased for GSE and submitted it to USAID this quarter. After reviewing the document, it was sent back to PGIP with a number of comments and suggestions. Currently the team is working to finalize the document and expects to submit it to USAID next quarter.

5 Environmental Assessment

As reported in the previous quarter, an Environmental Scoping Statement was approved by the BEO on July 20 and the baseline survey was completed for the Environmental Assessment. The Environmental Assessment was drafted and submitted for BEO's approval on September 24, 2011. Several rounds of BEO and USAID comments were received and acted upon during the quarter. The report was revised and resubmitted to USAID in January 2012.

The EA for the Government of Georgia was approved by the Government of Georgia on February 22, 2012.

The Georgia Power and Gas Infrastructure Project (PGIP) provides in-country professional engineering and other technical services to support power and gas transmission improvements being undertaken by USAID on behalf of the Government of Georgia. The activities performed under PGIP complement and reinforce the activities, project management, and engineering expertise of USAID/Caucasus.

PGIP is being implemented from 2010 to 2013 in collaboration with the Georgian Oil and Gas Company (GOGC) and the Georgia State Electrosystem (GSE) to upgrade, replace, and install critical selected gas and power transmission infrastructure. These companies are state-owned entities charged with the import and transit, and in the case of GSE, dispatch of electricity throughout the country.

PGIP's activities support USAID's objective of promoting energy security through greater access to electricity and natural gas supplies households in Western Georgia, promoting the development of the Poti Free Industrial Zone (FIZ) on the Black Sea, and securing power exports through in-country reliability-related infrastructure improvements. The activities are managed by Tetra Tech and support USAID's objective of fostering sustainable development.

The PGIP project includes the following infrastructure projects:

- Construction of a new 31 kilometer, 700 mm gas pipeline from Senaki to Poti and to the Poti FIZ
- Construction of a new 76 kilometer, 700 mm gas pipeline from Kutaisi to Senaki
- Replacement of 58 kilometers of 220 kV transmission lines (referred to as Senaki I and II), which were dismantled in 1992 during Georgia's civil war
- Restoration of the power substations in Tskaltubo and Menji to support the Senaki I and II 220 kV transmission lines.

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